

1. Types of media that support Bluetooth Technology:
 - Earpieces (For calls, telephone) also known as handsfree headset
 - Headphones
 - Speakers
 - Car stereo
 - Transferring files (from one source to another)
 - Bluetooth headset and Intercom
 - Networking between pcs in confined space
 - Wireless keyboards, mice, and printers
 - Any of the Next Generation game systems use Bluetooth with their sponsored controllers, to allow wireless connections.
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2. Why Bluetooth is becoming important
 - a. Implemented as a wire-replacer
 - b. Conduct a lower amount of power.
3. Difference between Bluetooth and Wi-fi
 - a. Both can set up networks, print, and transfer files
 - i. Wi-fi serves as a replacement for cabling of general local area network access in work areas.
 1. Often known as term WLAN (Wireless Local area networks)
 - b. Bluetooth was intended for portable equipment and its applications.
 - i. Outlined as the WPAN (Personal area Network)
4. How does Bluetooth actually work?
 - a. First, it is important to understand how things worked before Bluetooth
 - i. When you use computers, entertainment systems or telephones, the various pieces and parts of the systems make up a community of electronic devices.
 1. These devices communicate with each other using a variety of wires, cables, radio signals and infrared light beams, and an even greater variety of connectors, plugs and protocols.
 - b. How Bluetooth makes a connection
 - i. Bluetooth acts as a radio-frequency standard
 - ii. Its use is inexpensive, automatic, and entirely wireless.
 - iii. This type of technology can be seen in such things like infrared also
 1. Commonly seen in Television remotes
 - a. Projects light waves of lower frequency than human eyes can receive and interpret.
 - b. Main difference lies in the flexibility of use.
 - i. Infrared only transfers between two devices (such as tv remote to cable box/dvd player)
 1. Drawback because Bluetooth can connect to multiple devices at the same time

- ii. Infrared only works when the device is pointed directly at the device you are interacting with (pointing the remote at the tv)
 - 1. Drawbacks are that Bluetooth can be tethered and interacted with without direction
 - a. Can control things without having to point at device you are interacting with.
- iv. Bluetooth gets around infrared problems using low-level radio waves
 - 1. Communicates on a frequency of 2.45 GHZ (gigahertz)
 - a. Gigahertz (1×10^9) = 1 billion hertz
 - b. Very high, bass on common subwoofer play from ranges of 20-200 hertz
 - c. Humans can hear hertz in a range of 20- 20,000 hertz
 - i. Hertz is defined as a the number of cycles per second of a periodic phenomenon
 - ii. Examined when studying a sine wave, describing pitches of sound.
 - 1. Commonly used in radio and audio applications
- v. Bluetooth works automatically because of these radiowaves.
 - 1. When Bluetooth is turned on, the device is sending radiowaves constantly.
 - a. If another Bluetooth ready device is in the area, it will read the radiowaves, and communicate back
 - b. If a connection is made, what is called a network is created.
 - i. Once network is formed, the radio waves are closed between those two products, no others
 - 1. Other networks cannot access your Bluetooth devices.
 - a. To connect to multiple devices at once, they need to be on the same network
 - b. Can hold up to 8 different devices on a single network
- vi. Bluetooth Security
 - 1. Must be careful that waves being sent are not intercepted
 - a. Susceptible to spying and remote access.
 - b. The automatic connection can also be a problem
 - i. Benefits people who wish to send you data without your permission.
 - c. Bluetooth specific problems
 - i. Other problems like "bluejacking," "bluebugging" and "Car Whisperer" have turned up as Bluetooth-specific security issues.

- ii. **Bluejacking** involves Bluetooth users sending a business card (just a text message, really) to other Bluetooth users within a 10-meter (32-foot) radius. If the user doesn't realize what the message is, he might allow the contact to be added to his address book, and the contact can send him messages that might be automatically opened because they're coming from a known contact.
- iii. **Bluebugging** is more of a problem, because it allows hackers to remotely access a user's phone and use its features, including placing calls and sending text messages, and the user doesn't realize it's happening.
- iv. The **Car Whisperer** is a piece of software that allows hackers to send audio to and receive audio from a Bluetooth-enabled car stereo. Like a computer security hole, these vulnerabilities are an inevitable result of technological innovation, and device manufacturers are releasing firmware upgrades that address new problems as they arise.

5. How Bluetooth Relates to Survey Of Computing

- a. The class is basically teaching us an overview on how a computer works and communicates, making Bluetooth very relevant to our class
 - i. I personally didn't have a very solid idea of how Bluetooth worked, and wanted to explore a little further into that in my discussion
 - ii. I found the idea of the waves and frequencies used fascinating.
 - 1. Particularly when connecting ipod to a Bluetooth speaker.
 - a. I enjoy music at its highest quality, preferably CD quality.
 - b. \ sound gets compressed and downgraded when transferred from a CD to computer, and computer to ipod
 - c. Surprised how good the sound quality can be over Bluetooth, and how these digital frequencies have such a strong connection.

6. Futher discussion topics

- a. Bluetooth and The "cloud"
 - i. Are the similar, or completely different
 - 1. What is done with data stored in cloud
 - ii.